

AMENDMENTS

AMENDMENTS TO THE CLAIMS

In the Claims:

1. (Currently Amended) A method of identifying a candidate p21 pathway modulating agent, said method comprising the steps of:
 - (a) providing an assay system comprising mammalian cultured cells that express a full-length wildtype casein kinase I gamma (CSNK1G) polypeptide or nucleic acid, wherein the assay system is a cell proliferation assay system;
 - (b) contacting the assay system with a test agent, wherein the test agent modulates the expression of CSNK1G ~~under conditions whereby, but for the presence of the test agent, the system provides a reference activity; and~~
 - (c) ~~detecting a test agent biased activity of the assay system, wherein a difference between the test agent biased activity and the reference activity identifies the test agent as a candidate p21 pathway modulating agent; determining the level of cell proliferation in the assay system in the presence and absence of the test agent; and~~
 - (d) selecting the test agent as a candidate p21 pathway modulating agent if the level of cell proliferation in the assay system contacted with the test agent is altered relative to the level of cell proliferation in the assay system not contacted with the test agent.
2. (Canceled)
3. (Previously presented) The method of Claim 1, wherein the cultured cells additionally have defective p21 function.
4. (Withdrawn) The method of Claim 1 wherein the assay system includes a screening assay comprising a CSNK1G polypeptide, and the candidate test agent is a small molecule modulator.
5. (Withdrawn) The method of Claim 4 wherein the assay is a kinase assay.
6. (Cancelled)

7. (Withdrawn) The method of Claim 1 wherein the assay system includes a binding assay comprising a CSNK1G polypeptide and the candidate test agent is an antibody.
8. (Withdrawn) The method of Claim 1 wherein the assay system includes an expression assay comprising a CSNK1G nucleic acid and the candidate test agent is a nucleic acid modulator.
9. (Withdrawn) The method of claim 8 wherein the nucleic acid modulator is an antisense oligomer.
10. (Withdrawn) The method of Claim 8 wherein the nucleic acid modulator is a PMO.
11. (Withdrawn) The method of Claim 1 additionally comprising:
- (d) administering the candidate p21 pathway modulating agent identified in (c) to a model system comprising cells defective in p21 function and, detecting a phenotypic change in the model system that indicates p21 function is restored.
12. (Canceled)
13. (Withdrawn) A method for modulating a p21 pathway of a cell comprising contacting a cell defective in p21 function with a candidate modulator that specifically binds to a CSNK1G polypeptide, whereby p21 function is restored.
14. (Canceled)
15. (Withdrawn) The method of Claim 13 wherein the candidate modulator is selected from the group consisting of an antibody and a small molecule.
16. (Currently amended) The method of Claim 1, comprising the additional steps of:
- (d) providing a second assay system comprising mammalian cultured cells that express a full-length wildtype CSNK1G polypeptide or nucleic acid, wherein the second assay system can detect ~~an agent-biased~~ a phenotypic change in the p21 pathway,
 - (e) contacting the second assay system with the test agent of (b) or leaving the second assay system untreated as a control ~~or an agent derived therefrom under conditions whereby, but for the presence of the test agent or agent derived therefrom, the system provides a reference activity;~~ and
 - (f) ~~detecting an agent-biased activity of~~ a phenotypic change in the p21 pathway

between the second assay system contacted with the test agent of (b) or an agent derived therefrom and the second assay system left untreated, wherein a difference between the agent-biased activity and the reference activity of the second assay system said phenotypic change confirms the test agent or agent derived therefrom as a candidate p21 modulating agent.

17. (Canceled)
18. (Canceled)
19. (Canceled)
20. (Withdrawn) A method of modulating p21 pathway in a mammalian cell comprising contacting the cell with an agent that specifically binds a CSNK1G polypeptide or nucleic acid.
21. (Canceled)
22. (Withdrawn) The method of Claim 20 wherein the agent is a small molecule modulator, a nucleic acid modulator, or an antibody.
23. (Withdrawn) A method for diagnosing a disease in a patient comprising:
 - (a) obtaining a biological sample from the patient;
 - (b) contacting the sample with a probe for CSNK1G expression;
 - (c) comparing results from step (b) with a control;
 - (d) determining whether step (c) indicates a likelihood of disease.
24. (Withdrawn) The method of claim 23 wherein said disease is cancer.
25. (Withdrawn) The method according to Claim 24, wherein said cancer is a cancer as shown in Table 1 as having >25% expression level.
26. (New) The method of Claim 1, wherein the candidate test agent is an anti-CSNK1G antibody.
27. (New) The method of Claim 1, wherein the candidate test agent is a nucleic acid modulator that modulates CSNK1G expression.

28. (New) The method of claim 27, wherein the nucleic acid modulator is an antisense oligomer directed against CSNK1G nucleic acid.
29. (New) The method of Claim 28, wherein the nucleic acid modulator is a PMO.
30. (New) The method of Claim 1 additionally comprising:
- (d) administering the candidate p21 pathway modulating agent identified in (c) to a model system comprising cultured cells defective in p21 function and detecting a phenotypic change in the model system that indicates p21 function is restored.